





Secondary Schools One Health training of trainers

One Health education initiative for pastoralist students in Somalia

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- 1- Amoud University
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Workshop/Training report

Borama October 30 - November 3, 2024, and Mogadishu January 15 - 19, 2025.













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Introduction

The One Health Education Initiative for pastoralist students in Somalia aims to address critical health education gaps within Somali pastoralist communities by incorporating One Health principles into secondary school curricula in the Awdal and Benadir regions. The initiative focuses on equipping teachers with the necessary knowledge and tools to educate students on vital health topics such as hygiene, disease prevention, and safe human-animal interactions. It will achieve this by developing a comprehensive facilitator manual tailored to pastoral settings, organizing teacher training workshops, and creating a monitoring framework to track the integration of One Health concepts over six months.

The workshops, held in Borama (October 30–November 3, 2024) and Mogadishu (January 15–19, 2025) trained 35 teachers who turn educated over 2,000 students. Through this process, the program seeks to empower students to improve the health and well-being of their communities.

The initiative also aims to overcome challenges such as limited One Health knowledge. Plans are in place to scale up the program, secure policy support, and ensure its sustainability through ongoing training, collaboration with ministries, and robust monitoring and evaluation.

Aims and objectives of One Health schools training

- Develop a customized facilitator manual on the One Health approach tailored for secondary school teachers in pastoral settings.
- Conduct two training workshops to equip selected teachers with the skills to effectively deliver One Health concepts using the facilitator manual.
- Establish a monitoring system to track and evaluate the integration of One Health principles in schools over the course of one year.

Key issues addressed in One Health schools training

The One Health (OH) schools training in Somalia underscored the critical interconnections between human, animal, and environmental health, highlighting significant challenges such as zoonotic diseases, antimicrobial resistance (AMR), poor water, sanitation and hygiene (WASH) conditions, and environmental degradation.

It emphasized the need for integrated health interventions, including enhanced disease surveillance, responsible antibiotic use, improved sanitation, and sustainable environmental practices to address these challenges and ultimately improve public health and food security.

Participants

The event directly benefited secondary school teachers in the Awdal and Benadir regions in Somalia, who were trained on the OH approach. Indirectly, it supported pastoral students by equipping teachers

to incorporate OH concepts into their lessons. Additionally, the Ministries of Education and Health in Somalia were involved in supporting the integration of health education into national frameworks.



Participants during the training in Awdal region (photo credit; Hared. Yusuf/Amoud University/COHESA)

A total of 35 participants were trained, including 10 females and 25 males. The training took place at Sheekh Ali Jawhar and Aden Isaak Schools in Borama, Awdal Region (17 participants: 6 females and 11 males), and at Gaashanle and Godey Secondary Schools in Mogadishu, Benadir Region (18 participants: 4 females and 14 males).

While the initial target was 32 participants, the school administrations requested the inclusion of three additional teachers, bringing the total to 35. Participant details are provided in Annexes (2,5)

Activities, procedures, and achievements

The training process commenced with the development of a facilitator manual on the One Health approach, specifically designed for secondary school teachers in pastoral settings, followed by stakeholder identification, including selecting pilot schools and teachers for training. Training workshops aimed at equipping selected teachers with the skills to effectively deliver One Health concepts using the facilitator manual were conducted. Over the course of a five-day training program, teachers were provided with the knowledge and tools to integrate One Health principles into their teaching practices.

Follow-up sessions for teachers and establishing a monitoring system to oversee the implementation of One Health principles in schools were scheduled. Additionally, pre- and post-assessments were conducted to measure students' understanding of the modules, with the results contributing to the development of a comprehensive case study report.

About the manual

The Comprehensive One Health Education manual is a structured guide designed to equip school students in Somalia with the knowledge and skills necessary to understand and address health challenges through a One Health approach. Recognizing the interconnectedness of human, animal, and environmental health, the manual provides a robust educational framework for students to explore critical health topics and their real-world implications. The manual aims to raise awareness among young learners, fostering a generation of informed individuals who can contribute to holistic health solutions in their communities.

The manual consists of eight comprehensive lessons/modules, each addressing a fundamental aspect of One Health.

- i. <u>The introduction to One Health</u> explains the concept, significance, and benefits of a collaborative approach to health, emphasizing the role of human, animal, and environmental health sectors.
- ii. <u>The human health section</u> covers essential topics such as disease prevention, hygiene, nutrition, and healthcare access.
- iii. <u>The animal health section</u> highlights the importance of livestock and wildlife health, zoonotic disease prevention, and veterinary care.
- iv. <u>Environmental health</u> discusses pollution, climate change, and sustainable practices to maintain a healthy ecosystem.
- v. <u>Zoonotic diseases</u> explores the transmission, impact, and prevention of diseases that spread between animals and humans, including rabies, anthrax, and Rift Valley fever.
- vi. <u>The WASH (Water, Sanitation, and Hygiene) section</u> promotes hygiene education, clean water access, and sanitation improvements to prevent waterborne diseases.
- vii. <u>Antimicrobial resistance (AMR)</u> educates students on the dangers of antibiotic misuse and strategies to combat resistance.
- viii. <u>The final lesson</u> includes revision and key takeaways to reinforce concepts through interactive learning and discussions.

Each lesson integrates engaging discussions, real-world case studies, and interactive activities to enhance student understanding and encourage participation. Facilitators are provided with preparatory guidelines, visual aids, and contextual examples tailored to Somalia's specific health challenges. The operationalization of this manual is expected to yield several impactful outcomes. Students will gain a deeper understanding of One Health principles and their relevance to daily life. Learners will adopt healthier practices, such as improved hygiene and responsible animal handling, reducing disease transmission risks. By educating young learners, the program indirectly influences households and communities, fostering a culture of health advocacy. Additionally, the training equips students with foundational knowledge that may inspire future careers in healthcare, veterinary science, and environmental management.

Training locations and dates

- Borama: October 30–November 3, 2024, at Rays Hotel
- Mogadishu: January 15–19, 2025, at Oriental Hotel

The training, organized by Amoud University in Borama for Awdal region teachers and Somali National University in Mogadishu for Banadir region teachers, was conducted over five days. The training was conducted in Somali and English and featured participant-centered methods, including discussions, presentations, and mock teaching exercises to prepare teachers for delivering One Health concepts. Facilitators included Yusuf Hared, Muhiodin, Hodan, Amiin, and Hamda in Awdal, and Shafii, Ibar, Daha, and Ibrahim in Banadir.

The sessions covered human, animal, and environmental health, zoonotic diseases, WASH, and antimicrobial resistance (AMR). On the final day, participants presented their action plans and outlined the division of students assigned to each trainer, as detailed in Annex C.



Participants during the training in Benadir region (photo credit; Hared. Yusuf/Amoud University/COHESA)

Achievements of the Training

- **Teacher Capacity Building**: Trained 35 teachers on One Health principles and practical teaching methods, introducing interactive techniques for effective lesson delivery.
- **Educational resource development**: Developed and validated a facilitator manual on One Health and created lesson plans focusing on hygiene, human-animal interaction, and food safety.
- **Improved student awareness**: Educated over 2,000 students on health practices and disease prevention, empowering them to be health advocates in their communities.
- Sustainability measures: AU and SNU signed agreements with schools to integrate One Health topics into curricula, developed a one-year monitoring framework, and planned biweekly school visits for six months.
- **Stakeholder engagement**: Collaborated with ministries to align efforts with national education goals and laid the groundwork for policy influence and broader curriculum integration.

- Monitoring and evaluation: Conducted regular school visits for progress assessment and gathered feedback, implementing a continuous improvement system based on evaluations.
- **Gender inclusion**: Ensured equal opportunities for male and female teachers in training and leadership roles.

These achievements underscore the sustainability and scalability of the One Health initiative, paving the way for its expansion across schools and regions.

Outputs of the Training:

- 1. **Trained teachers:** 35 teachers across four secondary schools in the Awdal and Benadir regions of Somalia were successfully trained on OH principles using the developed facilitator manual.
- 2. **Facilitator manual:** A comprehensive facilitator manual on One Health concepts and principles for pastoral schools was developed and validated, providing clear guidance for teachers.
- 3. **Student impact:** Over 2,000 pastoral students in the intervention schools were educated on One Health concepts, promoting better hygiene, disease prevention, and safe practices within their communities.
- 4. **Monitoring and evaluation framework:** A detailed monitoring and evaluation framework was created to assess the intervention's impact over six months, ensuring continuous improvement and adaptation.
- 5. Case study development: One Health education initiative for pastoralist students in Somalia; A case study will be developed to document the *One Health Education Initiative* pilot program, which targets pastoralist students in Somalia. Ethical approval for the study was obtained from Amoud University. The study will assess the initiative's effectiveness and scalability through:
 - o **Pre-assessment**: Already conducted to establish baseline metrics.
 - o **Post-assessment**: To be implemented upon finalization of student training sessions.

This evidence-based evaluation will highlight outcomes, lessons learned, and recommendations for scaling the approach to broader communities.

6. Sustainability and school integration:

 AU and SNU developed agreements with schools to incorporate OH into the curriculum for one year, with plans for further integration.

7. Stakeholder collaboration:

 Strong engagement with ministries and local stakeholders to support and sustain the initiative, fostering opportunities for broader adoption.

These outputs not only demonstrate the immediate success of the training but also lay the foundation for long-term health education improvements and the scalability of the One Health approach in Somalia and beyond.

Workshop Challenges

- **1. Planning and preparation:** Difficulty tailoring content to diverse skill levels and needs; lack of prior knowledge about One Health (OH) among participants.
- **2. Logistical challenges:** Managing materials and equipment in remote areas; limited access to reliable internet for presentations and communication.
- **3. Facilitation issues:** Time management issues with a packed agenda; balancing participant engagement to ensure inclusivity.
- **4. Subject knowledge gaps:** Difficulty integrating OH principles into existing curricula; limited student knowledge about OH, requiring simplification of concepts.
- **5. Cultural barriers:** Resistance to new methods due to cultural norms or scheduling conflicts; gender biases affecting participation and engagement.
- **6. Language and communication:** Language barriers between Somali and English speakers; simplifying complex OH concepts for better understanding.
- **7. Sustainability and ilmpact:** Maintaining momentum and scaling the initiative beyond pilot schools; ensuring consistent follow-up and integration of OH into curricula; securing ongoing commitment from stakeholders and ministries.
- **8. Monitoring and follow-up:** Ensuring effective implementation of OH principles by teachers; conducting planned biweekly school visits to monitor progress.

Way forward

The One Health Education Initiative should focus on scaling the program to additional schools and regions, strengthening collaborations with the Ministries of Education and Health for national curriculum integration. Ongoing teacher training, peer-to-peer networks, and a robust monitoring system are essential for long-term success. Addressing logistical challenges, cultural resistance, and gender disparities is critical to ensure inclusivity and engagement. The initiative should promote sustainability by fostering stakeholder partnerships, securing funding, and advocating for the integration of One Health principles into local and national policies. Community outreach and continuous evaluation will be key to achieving lasting impact and broader adoption.

Annexes

Annex 1: Program Agenda & Schedule Awdal Region

	0 0	
Time	Session	Facilitator
	Day One: 30/10/2024	
9:00-9:30	 Registration Welcome remarks and opening training Getting to know each other Distribution of training materials 	All
9:30-9:40	Introduction and overview of the program	Yusuf
9:40-10:00	Pre-assessment test	
10:30-10:50	Coffee Break/ Refreshment	'
10:50-12:30	 Module 1 Introduction to One Health (10 minutes) Why is One Health Important? (10 minutes) How Human Activities Affect One Health (10 minutes) Key Organizations Involved in One Health (10 minutes) The Benefits of One Health (10 minutes) Main Takeaways on One Health (15 minutes) 	Muhiadin
12:30-13:30	Lunch and prayer	
13:30-2:00	Closing remarks for the day	

Time	Session	Facilitator
	Day Two: 31/10/2024	
9:00-9:30	Check-in and Recap	Muhiadin
9:30-10:30	 Module 2 Introduction to human health (10 minutes) What is human health? (10 minutes) Why is human health important? (10 minutes) How does human health affect one health? 10-minute) Challenges to Human Health (10 minutes) Importance of Preventive Health Measures (10 minutes) Main Takeaways on Human Health (15-20 minutes) 	Amiin
10:30-10:50	Coffee Break	

10:50-12:30	 Module 3 Introduction to Animal Health (10 minutes) What is Animal Health? (10 minutes) Why is Animal Health Important? (10 minutes) How Animal Health Affects One Health (10 minutes) Common Animal Health Challenges (10 minutes) Importance of Veterinary Care (10 minutes) Main Takeaways on Animal Health (15-20 minutes) 	Muhiadin
12:30-13:30	Lunch and prayer	
13:30-14:30	Group discussion / Q & A	
14:30-15:00	Closing remark of the day	

Time	Session	Facilitator
Day Three: 1/11/2024		
9:00-9:30	Check-in and Recap	Amiin & Muhiadin
9:30-10:30	 Module 4 Introduction to Environmental Health (10 minutes) What is Environmental Health? (10 minutes) Why is Environmental Health Important? (10 minutes) How Environmental Health Affects One Health (10 minutes) Common Environmental Health Challenges (10 minutes) Importance of Sustainable Practices (10 minutes) Main Takeaways on Environmental Health (15-20 minutes) 	Amiin
10:30-10:50	Coffee Break	
10:50-12:30	 Module 5 Introduction to Zoonotic Diseases (5-10 minutes) What Are Zoonotic Diseases? (10 minutes) How Do Zoonotic Diseases Spread? (10 minutes) Priority Zoonotic Diseases in Somalia (10 minutes) The Impact of Zoonotic Diseases (10 minutes) Prevention of Zoonotic Diseases (10 minutes) Rabies: A Case Study in Zoonotic Disease (10 minutes) Vaccination and Treatment (10 minutes) Main Takeaways on Zoonotic Diseases (15 minutes) 	Muhiadin
12:30-13:30	Lunch and prayer	
13:30-14:30	Group discussion / Q & A	
14:30-15:00	Closing remark of the day	

Time	Session	Facilitator	
Day Four: 2/11/2024			
9:00-9:30	Check-in and Recap	Amiin & Muhiadin	
9:30-10:30	 Module 6 Introduction to WASH (5-10 minutes) What is WASH? (10 minutes) Why is WASH Important? (10 minutes) How WASH Affects Health (10 minutes) WASH in Schools (10 minutes) WASH Practices Everyone Should Follow (10 minutes) Challenges in WASH Access (10 minutes) Main Takeaways on WASH (15 minutes) 	Muhiadin	
10:30-10:50	Coffee Break		
10:50-12:30	Group discussion / Presentation/ Q & A		
12:30-13:30	Lunch and prayer		
13:30-14:30	 Module 7 Introduction to Antimicrobial Resistance (5-10 minutes) What is Antimicrobial Resistance? (10 minutes) How Does Antimicrobial Resistance Develop? (10 minutes) The Impact of Antimicrobial Resistance (10 minutes) Preventing Antimicrobial Resistance (10 minutes) The Role of Students in Combating AMR (10 minutes) Main Takeaways on Antimicrobial Resistance (15 minute) 	Muhiadin	
14:30-15:00	Closing remarks for the day		

Time	Session	Facilitator	
Day Five: 03/11/2024			
9:00-9:30	Check-in and Recap	Muhiadin	
9:30-10:30	 Module 8 Introduction to One Health (10 minutes) Understanding Human Health (15 minutes) Understanding Animal Health (15 minutes) Understanding Environmental Health (15 minutes) Understanding Zoonotic Diseases (15 minutes) Understanding WASH (Water, Sanitation, and Hygiene) (15 minutes) Understanding Antimicrobial Resistance (15 minutes) 	Hamda	
10:30-10:50	Coffee Break		
10:50-12:30	Group discussion / Presentation/ Q & A		
12:30-13:30	Lunch and prayer		
13:30-14:30	Post-assessment Test and Conclusion		
14:30-15:00	Closing remarks for the day		

Annex 2: List of training participants in Awdal region

S/N	Name	Gender
1.	Nimco Osman Mumin	Female
2.	Siciid Ibrahim Rijaal	Male
3.	Subeer Abiib Muxumed	Male
4.	Hadaaya Maxamed Abdi	Female
5.	Mahamoud Maxamed Diiriye	Male
6.	Hana Ismail Ali	Female
7.	Khadra Abdirizak Omer	Female
8.	Yasin Xasan Cilmi	Male
9.	Cabdiwahaab Cabdilahi Axmed	Male
10.	Fadxiya Muxumed Waaberi	Female
11.	Ali Iid Abdilahi	Male
12.	Maxamed Ibrahim Axmed	Male
13.	Idiris Abdi Cabsiiye	Male
14.	Maxamuud Dahir Cofle	Male
15.	Abdiqadir Abdilahi Cali	Male
16.	Maxamed Dahir Ali	Male
17.	Abdirahman Egeh Guled	Male

Annex3: Pictures of the training Awdal region









Annex 4: Training agenda & schedule Benadir region

Time	Session	Facilitator
	Day One: 15/01/2025	
9:00-9:30	 Registration Welcome remarks and opening training Getting to know each other Distribution of training materials 	All
9:30-9:40	Introduction and overview of the program	Shafii
9:40-10:00	Pre-assessment test	
10:30-10:50	Coffee Break/ Refreshment	
10:50-12:30	Module 1 Introduction to One Health (10 minutes) Why is One Health Important? (10 minutes) How Human Activities Affect One Health (10 minutes) Key Organizations Involved in One Health (10 minutes) The Benefits of One Health (10 minutes) Main Takeaways on One Health (15 minutes)	Daha
12:30-13:30	Lunch and prayer	
13:30-2:00	Closing remarks for the day	

Time	Session	Facilitator
	Day Two: 16/01/2025	
9:00-9:30	Check-in and Recap	Daha
9:30-10:30	 Module 2 Introduction to human health (10 minutes) What is human health? (10 minutes) Why is human health important? (10 minutes) How does human health affect one health? 10-minute) Challenges to Human Health (10 minutes) Importance of Preventive Health Measures (10 minutes) Main Takeaways on Human Health (15-20 minutes) 	Shafii
10:30-10:50	Coffee Break	
10:50-12:30	 Module 3 Introduction to Animal Health (10 minutes) What is Animal Health? (10 minutes) Why is Animal Health Important? (10 minutes) How Animal Health Affects One Health (10 minutes) Common Animal Health Challenges (10 minutes) 	Ibrahim

	 Importance of Veterinary Care (10 minutes) Main Takeaways on Animal Health (15-20 minutes)
12:30-13:30	Lunch and prayer
13:30-14:30	Group discussion / Q & A
14:30-15:00	Closing remark of the day

Time	Session	Facilitator	
	Day Three: 17/01/2025		
9:00-9:30	Check-in and Recap	Shafii & Ibrahim	
9:30-10:30	 Module 4 Introduction to Environmental Health (10 minutes) What is Environmental Health? (10 minutes) Why is Environmental Health Important? (10 minutes) How Environmental Health Affects One Health (10 minutes) Common Environmental Health Challenges (10 minutes) Importance of Sustainable Practices (10 minutes) Main Takeaways on Environmental Health (15-20 minutes) 	Daha	
10:30-11:30	Coffee Break		
11:30-12:00	Lunch and prayer		

Time	Session	Facilitator
	Day Four: 18/01/2025	
9:00-9:30	Check-in and Recap	Daha & Ibar
9:30-10:30	 Module 5 Introduction to Zoonotic Diseases (5-10 minutes) What Are Zoonotic Diseases? (10 minutes) How Do Zoonotic Diseases Spread? (10 minutes) Priority Zoonotic Diseases in Somalia (10 minutes) The Impact of Zoonotic Diseases (10 minutes) Prevention of Zoonotic Diseases (10 minutes) Rabies: A Case Study in Zoonotic Disease (10 minutes) Vaccination and Treatment (10 minutes) Main Takeaways on Zoonotic Diseases (15 minutes) 	Shafii
10:30-10:50	Coffee Break	
10:50-12:30	Group discussion / Presentation/ Q & A	
12:30-13:30	Lunch and prayer	

13:30-14:30	 Module 6 Introduction to WASH (5-10 minutes) What is WASH? (10 minutes) Why is WASH Important? (10 minutes) How WASH Affects Health (10 minutes) WASH in Schools (10 minutes) WASH Practices Everyone Should Follow (10 minutes) Challenges in WASH Access (10 minutes) Main Takeaways on WASH (15 minutes) 	Ibrahim		
Time	Session	Facilitator		
Day Five: 19/01/2025				
9:00-9:30	Check-in and Recap	Shafii & Ibrahim		
9:30-10:30	 Module 7 Introduction to Antimicrobial Resistance (5-10 minutes) What is Antimicrobial Resistance? (10 minutes) How Does Antimicrobial Resistance Develop? (10 minutes) The Impact of Antimicrobial Resistance (10 minutes) Preventing Antimicrobial Resistance (10 minutes) The Role of Students in Combating AMR (10 minutes) Main Takeaways on Antimicrobial Resistance (15 minute) Coffee Break 	lbar		
10:50-12:30	Group discussion / Presentation/ Q & A			
12:30-13:30	Lunch and prayer			
13:30-14:30	 Module 8 Introduction to One Health (10 minutes) Understanding Human Health (15 minutes) Understanding Animal Health (15 minutes) Understanding Environmental Health (15 minutes) Understanding Zoonotic Diseases (15 minutes) Understanding WASH (Water, Sanitation, and Hygiene) (15 minutes) Understanding Antimicrobial Resistance (15 minutes) 	Daha		
14:30-15:00	Closing remarks for the day			

Annex 5: List of Training Participants in Benadir Region

S/N	Name	Gender
1	Shaafici Mohamed Shidane	Male
2	Abshir Ahmed Hussein	Male
3	Muhudin Ibraahim Hassan	Male
4	Ahmed Omar Ali	Male
5	Abdi Hassan Elmi Barqadle	Male
6	Ahmed Alnor Abdi Rahman	Male
7	Ahmed Hassan Hussein	Male
8	Juweriya Osman Hilowle	Female
9	Abdirahman Mohamed Ali	Male

10	Idiris Iman Mohamud	Male
11	Maxamuud Axmed Xaayow	Male
12	Xasan Cali Maxamed	Male
13	Xasan Maxamuud Cali	Male
14	Xasan Sh.Maxamed Xaashi	Male
15	Sahro Axmed Barrow	Female
16	Xamdi Ibraahin Osmaan	Female
17	Mohamed khalif Abdulle	Male
18	Rahma mohamud hassan	Female

Annex 6: Pictures of the training Benadir region











Annex 7: List of visibility and communication materials distributed in the Benadir region







